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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,720	02/02/2001	Eric C. Anderson	18602-05753	7919

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EXAMINER

WILSON, JACQUELINE B

ART UNIT

PAPER NUMBER

2612

DATE MAILED: 10/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/775,720

Applicant(s)
Anderson et al.

Examiner
Jacqueline Wilson

Art Unit
2612



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 3, 2002
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15, 20-23, 28-30, 33, and 34 is/are allowed.
- 6) ☒ Claim(s) 16, 17, 19, 24-27, 31, 32, and 35 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 8
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Art Unit: 2612

DETAILED ACTION

Reissue Applications

Response to Arguments

1. Applicant's arguments filed 06/03/02 have been fully considered but they are not persuasive.

The applicant argues, with respect to Claims 16 and 32, that the prior art fails to teach conveying the initially stored raw image data away from the memory buffer to a "second memory location" in uncompressed form to provide space for storing subsequently captured images. The examiner disagrees. Parulski teaches that once a certain amount of image data is captured (including the first initial image), the uncompressed data is transferred to a location (the area where storage is performed referred to as compression and recording section B) such that additional raw data images is captured. The claims do not specify capturing one image at a time, transferring the image in uncompressed form, and storing the image data in uncompressed form in a second memory means, as understood by the examiner with respect to the applicants arguments.

With respect to Claim 19, the applicant argues that the prior art fails to disclose by transferring raw data from the image buffer to a second memory before processing. The examiner is interpreting the limitation differently. Claim 19 (as interpreted by the examiner) briefly states a central processing unit (CPU) coupled to the imaging device and a memory buffer. The CPU

Art Unit: 2612

transfers the raw image data to a second memory in which processing the raw image data and storing the processed image data is based according to a predetermined set of priorities, wherein transferring has a higher priority than processing the raw image data. Since the claim does not specifically explain how or where the processed image is stored, the examiner interpreted the limitation as defining how the CPU is operating with respect to transferring the raw image data from the memory buffer to the second memory. The examiner believes that Parulski teaches this limitation. Parulski teaches a CPU (20) for transferring raw image data to a second memory (24) in which processing the raw image data is performed (via the processing algorithms 28 and the digital signal processor 22) and storing the processed data in the second memory (24) is performed.

Regarding arguments to Claim 24, please see 35 U.S.C. 112 and 102(e) rejections below.

Regarding arguments with respect to Claim 27, Parulski teaches processing/compressing raw image data if the transferring step (from the image buffer 18) is complete (see col. 4, lines 23-35).

Therefore, the rejections of are maintained.

Claim Rejections - 35 USC § 112

2. Claims 24-26 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the

Art Unit: 2612

art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In this case, the applicant claims, in Claim 24, a first spooler routine to move raw image data out of a frame buffer and into a first memory, a processing/compression routine which compresses the raw image, then a second spooler routine which moves compressed image data out of the first memory into a flash memory. It is unclear as to what is claimed since the first spooler routine specifically claims transferring “raw” image data into a first memory, then the second spooler claims transferring the “compressed” image data out of the first memory. It is unclear how the compression routine factors in with the first and second spooler routines since the processing/compression routine only teaches compressing raw image data. This compression routine could be performed either from the output of the frame buffer or from an input signal similar to the signal entering the frame buffer. The examiner will interpret this limitation as compressing the raw data from the frame buffer before input into a first memory. However, appropriate correction is required.

3. Claim 26 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Indication of how the compressed image data is first stored in a first memory is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). It is vague and indefinite as to how the compressed image data is stored in a first memory such that the second spooler routine moves compressed image data out of the first memory. Again, the examiner has

Art Unit: 2612

not supplied a prior art rejection since it is unclear what is being claimed. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. **Claims 16, 17, 19, 24, 25, 27, 31 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Parulski et al. (US 5,633,678).**

Regarding Claim 16, Parulski et al.'678 teaches an imaging device (12), a memory buffer (18), first routines for conveying the stored raw image data away from the memory buffer to a second memory location (the second memory location being the compression and recording section B) to provide space for storing additional captured images, wherein the raw image data is stored in uncompressed form in the second memory location (col. 4, lines 23+), second routines for processing the raw image data and for storing the processed image data (col. 4, lines 34-38). In order for the compressed image data to be stored to a disk (24), Parulski et al.'678 teaches that the raw image must first be obtained (via 12), temporarily stored in the buffer memory (18),

Art Unit: 2612

transferred in uncompressed form to the second memory location for compression and storage. This process is considered as the claimed routines since it is processed a predetermined way. Parulski et al.'678 further discloses a central processing unit (referred to as processor 20) coupled to the imaging device and the memory buffer for executing according to a predetermined set of priorities the first and second routines, and wherein the first routines are assigned priority (since it captures the images and temporarily stores them) over the second routines (for processing and storing to a disk) to thereby facilitate the rapid conveyance of raw image data away from the frame buffer. The limitation "facilitate rapid conveyance..." is interpreted in its broadest sense because there is nothing compared regarding the expeditiousness of transferring the raw image data away from the frame buffer. Referencing previous arguments regarding "An apparatus for increasing image capture rate", the preamble is not giving patentable weight. However, the examiner strongly believes that the apparatus of Parulski et al.'678 is able to increase image capture rate since it follows the routines especially after the memory buffer (18) accumulates a certain amount of image data (col. 4, lines 23+) thereby creating an empty memory buffer for storing more images. Nothing in the claim indicates the benefit of selectively delaying the time-intensive steps of image compression and processing for allowing a higher image capture rate. Therefore, Parulski et al.'678 is able to read on Claim 16.

Regarding Claim 17, Parulski et al.'678 teaches the first routines are configured to convey the initially stored raw image data from the frame buffer to a RAM disk (col. 4, lines 41+).

Art Unit: 2612

Regarding Claim 19, Parulski et al.'678 teaches an imaging device (referred to as input section A) for generating raw image data responsive to an image capture request (which is inherent), and further for storing the raw image data in a memory buffer (18), and a central processing unit (referred to as processor 20) coupled to the imaging device and the memory buffer (see fig. 2), for transferring the raw image data to a second memory (24), processing the raw image data (22) and storing the processed image data in the second memory (24; see col. 4, lines 23+).

Claim 24 is analyzed and discussed with respect to Claim 16. Although Parulski does not specifically disclose a first memory, it is inherent that the first memory is located in the digital signal processor (22) since it receives raw data from the image buffer (18) and compresses the image according to the compression algorithm (28). This teaches that some type of holding means is required to maintain the image until the proper algorithm is acquired. The further limitation of a processor for executing the routines according to their priority and according to available processor time is now discussed. Parulski et al.'678 teaches that the processor (20) is programmed to perform a variety of functions (col. 4, lines 9-10). Thus the processor must perform each function in a predetermined time to complete each task. Therefore, in order for the processor to perform the claimed routine according to the programmed functions, it is inherent that the processor is functioning according to available processor time depending on which function is executing the specific task.

Art Unit: 2612

Regarding Claim 25, Parulski et al.'678 teaches a third routine which moves raw image data to a first memory (18) before the compression operation.

Regarding Claim 27, Parulski et al.'678 teaches transferring raw image data out of a frame buffer (col. 4, lines 23-25), processing and compressing raw image data if transferring raw image data is complete (col. 4, lines 23+), transferring compressed image data to flash memory if the processing and compressing step is complete (col. 4, lines 34-37). Although Parulski et al.'678 does not specifically disclose the completion of each step, it is inherently taught that each step is completing its task. One having ordinary skill would recognize that each step is performed one step at a time.

Regarding Claim 31, Parulski et al.'678 teaches the central processing unit is physically embedded in a single physical apparatus (see fig. 2).

Claim 35 is analyzed and discussed with respect to Claim 16. The limitation of wherein the second routines are not conducted until there are no pending image capture requests and the first routines have conveyed all initially stored raw image data away from the memory buffer is also taught in Parulski. Parulski teaches that when the camera has captured a predetermined amount of image data that can be stored in the image buffer (18), the images are transferred to a storage location. Pending image capture requests are inoperable if there isn't remaining space for capture in the image buffer to maintain. This reads on the limitation above.

Art Unit: 2612

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parulski et al.'678 in view of Aciu et al. (US 5,625,412).**

Regarding Claim 32, Parulski et al.'678 fails to specifically disclose the central processing unit is physically embedded in a personal computer to which the imaging device is communicatively coupled. However, Aciu et al.'412 it is notoriously well known in the art to include a central processing unit in a computer as shown in figure 1. Also, Aciu et al.'412 discloses the processor (computer 12) is communicatively coupled to the imaging device (3). Aciu et al.'412 teaches that it is advantageous to have the central processing unit embedded in a single physical apparatus (as well as the imaging device) which reduces the size of the apparatus into a compact hand held device. Therefore, it would have obvious to one having ordinary skill in the art to include the central processing unit is physically embedded in a personal computer to which the imaging device is communicatively coupled.

Allowable Subject Matter

Art Unit: 2612

8. **Claims 1-15, 20-23, 28-30, and 33-34 are allowed.**
9. **Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2612

11. Any inquiries concerning this communication from the examiner should be directed to **Jacqueline Wilson** whose telephone number is (703) 308-5080. The examiner can normally be reached Monday-Friday (alternate Fridays off) from 9:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wendy Garber**, can be reached at (703) 305-4929. The fax number for this group is (703) 872-9314.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or Faxed to:


(703) 872-9314, (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, V.A., Sixth Floor (Receptionist).

JBW

October 13, 2002


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